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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,580	10/24/2003	Atsushi Ueda	AIS-0010	6948
23353	7590	10/19/2005	EXAMINER	
RADER FISHMAN & GRAUER PLLC LION BUILDING 1233 20TH STREET N.W., SUITE 501 WASHINGTON, DC 20036			HAILEY, PATRICIA L	
			ART UNIT	PAPER NUMBER
			1755	

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/691,580

Applicant(s)

UEDA ET AL.

Examiner

Patricia L. Hailey

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,4,7,8,10,12-14,16 and 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3,4,7,8,10,12-14,16 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 30, 2005, has been entered.

Applicants' submission includes amendments to claims 3, 4, 7, 8, and 16. Support for these amendments can be found in the Specification at page 10, line 16 to page 11, line 14.

No claims have been canceled or added; claims 3, 4, 7, 8, 10, 12-14, 16, and 18 remain pending in this application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. *Claims 3, 4, 7, 8, 10, and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alfenaar et al. (U. S. Patent No. 4,127,468).*

Alfenaar et al. teach metal electrodes (useful as the anode in a fuel cell, see col. 5, lines 22-27—thus reading upon the claim limitation “anode catalyst for a fuel cell”, e.g., as recited in claims 3 and 14, as well as the limitation “fuel cell comprising the anode catalyst”, as recited in claim 13) wherein the metal is in a finely divided or porous state

(considered to read upon the limitation "fine particles"). The metal of the electrode is in the form of a metallic alloy, the constituents of which include a basis-metal and at least one alloying element. See col. 1, lines 58-64 of Alfenaar et al. (this disclosure is considered to read upon the limitation "mixture").

The basis-metal electrode is contacted with a solution of a suitable compound of the alloying element and, in situ, the compound is reduced, the alloying element thereby forming an alloy with the basis-metal. The alloying effect may take place throughout the body of the electrode, or only on the surface thereof. See col. 2, lines 2-24 of Alfenaar et al.

Any metal or alloy suitable for use as an electrode may be used as a basis-metal. Examples of these include metals from Groups VIII, IB, and IIB, i.e., ruthenium, rhodium, palladium, osmium, iridium, platinum, silver, and gold (thus reading upon claims 7 and 8). Additionally, the basis-metal may be present in the basis-metal electrode in a finely divided state, in combination with a carrier material such as electrically conductive (which reads upon claims 10 and 12). See col. 2, lines 25-43 of Alfenaar et al.

Alfenaar et al. at col. 2, lines 48-59 disclose exemplary embodiments wherein the basis-metal may be, inter alia, present as a component of an electrode comprising a hydrophobic porous element coated on one side with bonded porous carrier material (e.g., electrically conductive materials such as carbon) carrying finely-divided electrode

material. This disclosure is considered to read upon the limitation "coated on a conductive support".

Examples of the alloying elements include metals such as gold, gallium, and indium. See col. 3, lines 8-18 of Alfenaar et al., especially lines 15 and 16 (thus reading upon claims 3 and 4). Note that this disclosure also discloses the same metals that are suitable as basis-metals (ruthenium, rhodium, palladium, osmium, iridium, platinum, and silver).

Although Alfenaar et al. do not provide any specific examples of an anode catalyst comprising gold particles and either gallium, indium, or oxides thereof, one of ordinary skill in the art would, based on the teachings of Alfenaar et al., reasonably expect to select from the suitable components for both the basis-metal electrode and the alloying elements, and obtain Applicants' claimed invention. The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made, since it has been held to be within the general skill of a worker in the art to select a material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 U.S.P.Q. 416.

Response to Arguments

Although Alfenaar et al. do not explicitly disclose the term "mixture", as is now present in the instant claims, the teachings of this reference are considered to read upon this term, because the term "mixture" is considered to encompass any and all

percentages of the recited particles. For example, the term "mixture" could encompass 5% of gold particles, and the remainder being particles of gallium, indium and/or oxides thereof. Further, the term "mixture" could also be considered read upon by the term "alloy", which is known to be a mixture of two or more metals.

Further, although Alfenaar et al. disclose "mixtures of alloying elements" (col. 1, lines 60-64), it is considered that because these "alloying elements" are exemplified by metals such as those recited in Applicants' claims (col. 3, lines 8-16), and are metallic in form, the phrases "mixtures of alloying elements" is considered to encompass the phrase "mixtures of metals", as stated in Applicants' arguments.

With respect to the features of claim 16, specifically the formation of the claimed catalyst on a platinum layer, it is the Examiner's position that, while Alfenaar et al. do not specifically recite a "platinum layer", the reference is considered to provide reasonable teaching that such a layer can be envisioned. At col. 2, lines 16-18, Alfenaar et al. state that the "basis-metal electrode to be treated may comprise the main electrode metal and an electro-catalytic alloy component e.g. a surface layer", and further state that examples of the electrode (used as basis-metal) include platinum (col. 2, lines 25-38). Therefore, a main electrode metal such as platinum having a surface layer of an electro-catalytic alloy is considered envisioned by Alfenaar et al., which therefore reads upon Applicants' claim 16.

For these reasons, Applicants' arguments are not persuasive.

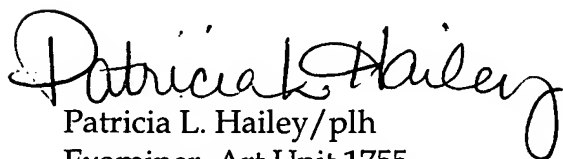
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia L. Hailey whose telephone number is (571) 272-1369. The examiner can normally be reached on Mondays-Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Patricia L. Hailey/plh
Examiner, Art Unit 1755
October 14, 2005


J.A. LORENGO
SUPERVISORY PATENT EXAMINER